

IN THE CLAIMS:

Claims 1-3. (Cancelled).

4. (Currently Amended) An optical waveguide comprising a hydrosilation-cured product of;

(A) an organopolysiloxane resin, which is represented by the average unit formula (1):



(wherein R^1 , R^2 , and R^3 stand for one, two, or more kinds of monovalent hydrocarbon groups selected from monovalent aliphatic hydrocarbon groups having 1 to 6 carbon atoms and monovalent aromatic hydrocarbon groups having 6 to 10 carbon atoms, $0 < a \leq 0.5$, $0 \leq b < 0.2$, $0.3 \leq c < 1$, $0 \leq d \leq 0.4$, $0 \leq (b+d)/(a+c) \leq 0.25$, and $a+b+c+d=1$) and has three or more monovalent unsaturated aliphatic hydrocarbon groups per molecule, with not less than 10 mol% of the monovalent hydrocarbon groups being monovalent aromatic hydrocarbon groups, and wherein the content of silanol groups and silicon-bonded alkoxy groups is not more than 2 mol% relative to all the silicon-bonded substituent groups, and

(B) an organosilicon compound having two or more silicon-bonded hydrogen atoms per molecule, with not less than 5 mol% of all the silicon-bonded monovalent substituent groups being monovalent aromatic hydrocarbon groups, said organosilicon compound selected from the group of organopolysiloxane resins and linear organopolysiloxanes,

5. (Currently Amended) An optical waveguide comprising a hydrosilation-cured product of;

(A) an organopolysiloxane resin, which is represented by the average unit formula (1):



(wherein R^1 , R^2 , and R^3 stand for one, two, or more kinds of monovalent hydrocarbon groups selected from monovalent aliphatic hydrocarbon groups having 1 to 6 carbon atoms and monovalent aromatic hydrocarbon groups having 6 to 10 carbon atoms, $0 < a \leq 0.5$, $0 \leq b < 0.2$, $0.3 \leq c < 1$, $0 \leq d \leq 0.4$, $0 \leq (b+d)/(a+c) \leq 0.25$, and $a+b+c+d=1$) and has three or more monovalent unsaturated aliphatic hydrocarbon groups per molecule, with not less than 10 mol% of the monovalent hydrocarbon groups being monovalent aromatic hydrocarbon groups, wherein said organopolysiloxane resin has a molecular weight such that the resin becomes liquid at a temperature of 200 °C or less and a viscosity of not less than 1000 mPa·s at 25 °C, and wherein the content of silanol groups and silicon-bonded alkoxy groups is not more than 2 mol% relative to all the silicon-bonded substituent groups,

(B) an organosilicon compound having two or more silicon-bonded hydrogen atoms per molecule, with not less than 5 mol% of all the silicon-bonded monovalent substituent groups being monovalent aromatic hydrocarbon groups, and

(d2) a hydrosilation-reactive organosiloxane oligomer having at least two monovalent unsaturated aliphatic hydrocarbon groups per molecule, wherein 5 mol % or more of all the monovalent hydrocarbon groups in the oligomer are monovalent aromatic hydrocarbon groups, and wherein the oligomer has not more than 15 silicon atoms per molecule and a viscosity of not more than 500 mPa·s at 25 °C,

Claims 6-7 (Cancelled)

8. (Previously Presented) The optical waveguide according to claim 4, wherein both a cladding and a core of the optical waveguide comprise a hydrosilation-cured product of component (A) and component (B), with the refractive index of the core being at least 0.1% higher than the refractive index of the cladding.

9. (Previously Presented) The optical waveguide according to claim 5, wherein both a cladding and a core of the optical waveguide comprise a hydrosilation-cured product of

component (A), component (B), and component (d2), with the refractive index of the core being at least 0.1% higher than the refractive index of the cladding.

10. (Original) The optical waveguide according to claim 8, wherein the refractive index difference is regulated by making the total content of monovalent aromatic hydrocarbon groups in component (A) and component (B) used for the core higher than the total content of monovalent aromatic hydrocarbon groups in component (A) and component (B) used for the cladding.

11. (Original) The optical waveguide according to claim 9, wherein the refractive index difference is regulated by making the total content of monovalent aromatic hydrocarbon groups in component (A), component (B), and component (d2) used for the core higher than the total content of monovalent aromatic hydrocarbon groups in component (A), component (B), and component (d2) used for the cladding.

12. (Previously Presented) The optical waveguide according to claim 4, wherein the optical waveguide has a film-like shape.

13. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 4 using a curable organopolysiloxane resin composition comprising (A), (B), and (C) a hydrosilation catalyst, wherein the composition is cured by heating.

14. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 4 using a curable organopolysiloxane resin composition comprising (A), (B), and (C) a hydrosilation catalyst, wherein the composition is applied to a substrate and cured by heating to form the hydrosilation-cured product.

15. (Withdrawn - Previously Presented) A process for fabricating the optical waveguide of claim 4, said process comprising;

applying a curable organopolysiloxane resin composition comprising (A), (B), and (C) a hydrosilation catalyst to a substrate and curing by heating to form the hydrosilation-cured product of (A) and (B), and

applying a second curable organopolysiloxane resin composition, whose cured product has a refractive index at least 0.1% higher than that of the composition comprising (A), (B), and (C), to the hydrosilation-cured product and curing the second composition by heating to form a cured product of the second composition, and

applying the curable organopolysiloxane resin composition comprising (A), (B), and (C) to the cured product of the second composition and curing the composition comprising (A), (B), and (C) by heating to form the hydrosilation-cured product.

16. (Withdrawn - Previously Presented) A process for fabricating the optical waveguide of claim 4, wherein a curable organopolysiloxane resin composition comprising (A), (B), and (C) a hydrosilation catalyst is casted into a mold having a desired inner surface shape and cured by heating to form a molding comprising the hydrosilation-cured product.

17. (Withdrawn - Previously Presented) A process for fabricating the optical waveguide of claim 4, said process comprising;

casting a curable organopolysiloxane resin composition comprising (A), (B), and (C) a hydrosilation catalyst into a mold having on its inner surface protrusions corresponding to a core of the optical waveguide and curing by heating to form a molding comprising the hydrosilation-cured product of (A) and (B),

removing the molding from the mold,

casting a second curable organopolysiloxane resin composition, whose cured product has a refractive index at least 0.1% higher than that of the composition comprising (A), (B),

and (C), into the hollow portion of the molding removed from the mold and curing the second composition by heating to form a cured product of the second composition, and

applying the composition comprising (A), (B), and (C) on top of the cured product of the second composition and the hydrosilation-cured product and curing the composition comprising (A), (B), and (C) by heating to form the hydrosilation-cured product.

18. (Previously Presented) The optical waveguide according to claim 5, wherein said optical waveguide has a film-like shape.

19. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 5 using a curable organopolysiloxane resin composition comprising (A), (B), (C) a hydrosilation catalyst, and (d2), wherein the composition is cured by heating to form the hydrosilation-cured product.

20. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 5 using a curable organopolysiloxane resin composition comprising (A), (B), (C) a hydrosilation catalyst, and (d2), wherein the composition is applied to a substrate and cured by heating to form the hydrosilation-cured product.

21. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 5, said process comprising;

applying a curable organopolysiloxane resin composition comprising (A), (B), (C) a hydrosilation catalyst, and (d2) to a substrate and curing by heating to form the hydrosilation-cured product of (A), (B), and (d2), and

applying a second curable organopolysiloxane resin composition, whose cured product has a refractive index at least 0.1% higher than that of the composition comprising (A), (B), (C), and (d2), to the hydrosilation-cured product and curing the second composition by heating to form a cured product of the second composition, and

applying the composition comprising (A), (B), (C), and (d2) to the cured product of the second composition and curing the composition comprising (A), (B), (C), and (d2) by heating to form the hydrosilation-cured composition.

22. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 5, wherein curable organopolysiloxane resin composition comprising (A), (B), (C) a hydrosilation catalyst, and (d2) is casted into a mold having a desired inner surface shape and cured by heating to form a molding comprising the hydrosilation-cured composition.

23. (Withdrawn – Previously Presented) A process for fabricating the optical waveguide of claim 5, said process comprising:

casting a curable organopolysiloxane resin composition comprising (A), (B), (C) a hydrosilation catalyst, and (d2) into a mold having on its inner surface protrusions corresponding to a core of the optical waveguide and curing by heating to form a molding comprising the hydrosilation-cured product of (A), (B), and (d2),

removing the molding from the mold,

casting a second curable organopolysiloxane resin composition, whose cured product has a refractive index at least 0.1% higher than that of the composition comprising (A), (B), (C), and (d2), into the hollow portion of the molding removed from the mold and curing the second composition by heating to form a cured product of the second composition, and

applying the composition comprising (A), (B), (C), and (d2) on top of the cured product of the second composition and the hydrosilation-cured product and curing the composition comprising (A), (B), (C), and (d2) by heating to form the hydrosilation-cured product.

24. (Previously Presented) The optical waveguide according to claim 4, wherein the organopolysiloxane resin (A) is further defined as a

methylvinylphenylpolysiloxane resin and the organosilicon compound (B) is selected from the group of methylphenylhydrogenpolysiloxane resin and linear methylphenylhydrogenpolysiloxane.

25. (Previously Presented) The optical waveguide according to claim 5, wherein the organopolysiloxane resin (A) is further defined as a methylvinylphenylpolysiloxane resin, the organosilicon compound (B) is selected from the group of methylphenylhydrogenpolysiloxane resin and linear methylphenylhydrogenpolysiloxane, and the organosiloxane oligomer (d2) is further defined as a methylvinylphenylsiloxane oligomer.